

use among diverse populations. □

Robert F. Schilling, PhD
Nabila El-Bassel, DSW
Mary Ann Leeper, PhD
Linda Freeman, MD

Robert F. Schilling, Nabila El-Bassel, and Linda Freeman are with the School of Social Work of Columbia University. Mary Ann Leeper is with Wisconsin Pharmacal, Inc., Jackson, Wis.

Requests for reprints should be sent to Robert F. Schilling, PhD, School of Social Work, Columbia University, 622 West 113th Street, New York, NY 10025.

References

- Stein ZA. HIV prevention: The need for methods women can use. *Am J Public Health*. 1990;80:460-463.
- Leeper MA. Reality™ (WPC-333): Preliminary evaluation of a condom for women to wear. *AIDS Care*. In press.
- Leonard TL, Freund M, Platt JJ. Male clients of female street prostitutes. *Am J Public Health*. 1989;79:903.
- Solomon MA, DeJong W. Preventing AIDS and other STDs through condom promotion: a patient education intervention. *Am J Public Health*. 1989;79:453-458.
- Mays VM, Cochran SD. Issues in the perception of AIDS risk and risk reduction activities by Black and Hispanic/Latina women. *Am Psychol*. 1988;43:949-957.
- Wyatt GE, Peters SD, Guthrie D. Kinsey revisited Part II: comparisons of the sexual socialization and sexual behavior of Black women over 33 years. *Arch of Sex Behav*. 1988;17:289-332.
- Marin G. AIDS prevention among Hispanics: needs, risk barriers, and cultural values. *Public Health Rep*. 1989;104:411-415.
- Schilling RF, El-Bassel N, Gilbert L, Schinke SP. Correlates of drug use, sexual behavior, and attitudes toward safer sex among African-American and Hispanic women in methadone maintenance. *J Drug Issues*. In press.
- Valdiserri RO, Arena VC, Proctor D, Bonati FA. The relationship between women's attitudes about condoms and their use: implications for condom promotion programs. *Am J Public Health*. 1989;79:499-501.
- Sakondhavit C. The female condom. *Am J Public Health*. 1990;80:498.

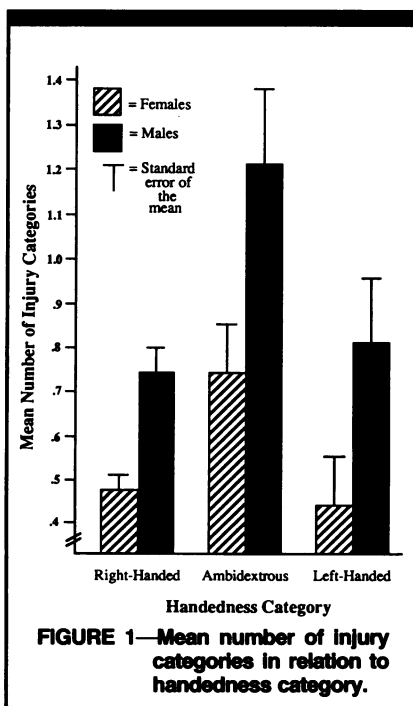
Handedness and Accident Proneness

Coren¹ recently reported that left-handed subjects suffered more accidents requiring medical attention (during the previous 2 years) than did right-handed subjects (OR = 1.89, 95% CI = 1.39, 2.58). He hypothesized that the increased risk in left-handed subjects may come from "implicit and explicit biases of the environment toward maximal convenience of the right-handed majority." In order for this hypothesis to be viable, ambidextrous people, who were combined with left-handers in

Coren's study, should be shown to have fewer accidents than left-handers.

In 1989, Dr. Coren graciously provided me with his raw data. In our reanalysis of his data, we trichotomized subjects' total handedness scores into a left-handed (n = 113), ambidextrous (n = 77) or right-handed (n = 1553) category. A 2 (male vs female) by 3 (handedness category) analysis of variance revealed that the total number of injury categories (range: 0-5; mean = 0.62; SD = 0.91)² varied across the three handedness categories (F = 5.50; df = 2, 1739; P = .004), and that males suffered more injury categories than did females (F = 16.60; df = 1, 1739, P = .0001). There was no interaction between gender and handedness categories (F = 0.70; df = 2, 1739; P = .50). Figure 1 illustrates these results.

Pairwise Tukey HSD tests revealed that ambidextrous subjects suffered accidents in more injury categories than did right-handed or left-handed subjects (P < .05), but that there was no difference between right-handed vs left-handed subjects. Nonparametric statistical analyses paralleled these results. Cochran-Mantel-Haenszel (CMH) tests,³ controlling for the gender effect (CMH = 31.85; df = 1; P < .001), revealed that there was a significant difference among the three handedness groups with respect to the occurrence vs nonoccurrence of an accident in any category (CMH = 17.28; df = 2; P < .001), but that the handedness accident odds ratio was similar across gender ($\chi^2 = 0.80$; df = 1; P = .37).⁴



Pairwise CMH tests, also controlling for gender, revealed that more accidents occurred in ambidextrous than in either right-handed subjects (CMH = 16.39; df = 1; P < .001; OR = 2.52, 95% CI = 1.61, 3.94) or left-handed subjects (CMH = 5.81; df = 1; P = .02; OR = 1.57, 95% CI = 1.09, 2.26), but that left-handed vs right-handed subjects did not differ with respect to accident history (CMH = 1.13; df = 1; P = .29; OR = 1.24, 95% CI = 0.87, 1.79).

These results suggest that ambidextrous people, rather than left-handed people experience more accidents than right-handed people. Although further investigation is needed, the relatively greater incidence of accidents in ambidextrous than in left-handed people weakens Coren's "right-handed world" hypothesis.¹ Biological or psychological hypotheses may ultimately prove more viable, although the literature does not allow one to draw firm conclusions as to ways in which ambidextrous and left-handed people differ. □

Walter F. Daniel, MS
Ronald A. Yeo, PhD

Requests for reprints should be sent to Walter F. Daniel, MS, Department of Psychology, University of New Mexico, Albuquerque, NM 87131.

References

- Coren S. Left-handedness and accident-related injury risk. *Am J Public Health*. 1989;79:1040-1041.
- Games PA. Curvilinear transformations of the dependent variable. *Psychol Bull*. 1983;93:382-387.
- Landis RJ, Heyman ER, Koch GC. Average partial association in three-way contingency tables: a review and discussion of alternative tests. *Int Stat Rev*. 1978;46:237-254.
- Breslow NE, Day NE. *Statistical Methods in Cancer Research. Vol 1: The Analysis of Case-Control Studies*. Lyon, France: International Agency for Research on Cancer; 1980.

Coren Responds

The reanalysis of my data by Daniel and Yeo and their finding that ambidextrous individuals are more susceptible to accident related injuries is quite interesting. It suggests that some additional aspects of handedness may be of importance in determining accident susceptibility besides simple sinistrality; however, these results do not cause me to abandon the hypothesis that left-handers are more susceptible to accidents.

Ambi- or mixed-handedness is a characteristic that is more closely associated with left- than with right-handedness. Part of the reason for this is that left-